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CENTRAL INTELLIGENCE AGENCY

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THE KOLA CLASS OF DESTROYERS

1. General

A destroyer of the KOLA Class was first observed in the fall of 1954, but the class is thought to have been in operative service since 1953. Certain things indicate that this type of destroyer is built on the hulls of former German "Flottentorpedoboote" which were under construction in Gdansk (Dansig) in 1945, and were later finished in the USSR to USSR specifications. Except for the hull, the KOLA Class differs greatly from the original German plans for "Flottentorpedoboote". At least ten ships of the KOLA Class are assumed to be in operative service, all of them in the Northern Fleet.

2. Dimensions

The overall length of the vessel is 318 feet, beam is estimated at 31 feet, and maximum draft 13 feet. Greatest displacement is 1,700 tons.

3. The Hull

The hull, like that of the other new classes of destroyers in the Soviet Navy - the TALLINN and the RIGA - is of the flush deck type, without, however, the especially high freeboard which distinguishes the TALLINN Class. The hull has a marked sheer, increasing gradually from the after funnel toward the bow. The height of the bow above the waterline is 19.5 feet; freeboard from the after funnel to the stern is 7 feet. The upper part of the stern forms a slight curve for the purpose of carrying mine rails outboard, while the lower part of the stern slopes inward toward the propellers. As in the ships of the SKORYY Class, the stern apparently has two vertical hatches, possibly intended for the release of depth charges.

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Each side of the hull has 20 air ports, all located above the main deck. The hull is all welded. From the bow to a point about 120 feet aft of the bow, and somewhat above the waterline, the hull breaks relatively sharply in toward the keel, which was a characteristic feature of German hull construction.

There are two anchors of a common type forward, resting in the especially short hawsepipes usually found on Soviet cruisers and destroyers.

4. Engines and Bunkers

Bunker capacity is estimated at about 500 tons. As yet, no opportunity for evaluation of the engines of the KOLA Class has presented itself.

5. Speed and Range

Maximum speed is estimated at 30 to 35 knots. At 16 knots, KOLA-Class vessels have a range of up to 2,000 nautical miles.

6. Superstructures, Masts, and Funnels

The vessels have two superstructures but, aside from the fact that the bridge structure differs somewhat from that of the SKORYY and TALLINN Classes, nothing about them is especially worthy of note. Both masts are of the tripod type, of steel tube construction. The foremast has two signal yards, each having about 12 signal halyards. The signal yards point forward at an angle of about 45 degrees to the centerline. The distance (about 10 feet) between the bridge and the foremast is relatively long. The foremast is placed close to the forward funnel. The mainmast, considerably shorter than the foremast, is placed on the deck house at the forward edge of the after funnel. The funnel is raked and an inner funnel extends somewhat above the outer one and ends in a slanting smoke deflector. Both funnels are relatively narrower than those of the SKORYY and TALLINN Classes. The forward funnel stands more in the open than the after funnel, which is surrounded by the deckhouse.

7. Radar Equipment

The ships of the KOLA Class are equipped with three different radar antennas, the purposes of which are surface warning, air warning, and fire direction control. All the observed antennas are of previously known types. The surface and air warning sets are alike on all the observed ships of this class, while the fire direction control set is more modern on one of the ships than on the others.

a) Surface Warning

For this purpose, the vessels have a relatively modern set which has the designation Lamp Post. This set has previously been observed on some ships of the SVERDLOV and SKORYY Classes and was seen for the first time in 1954. The set operates in the 10 centimeter range. The antenna is "wave-guide" fed and is placed atop the foremast.

Data:

Frequency	:	2,500-3,500 megacycles
Frequency of pulse repetition	:	Medium high
Polarization	:	Horizontal
Horizontal beam width	:	4.8°
Range (antenna height 72)	:	Destroyer about 20 nautical miles, MTB about 8 nautical miles

b) Air Warning

The set for this purpose is in very widespread use the Soviet Navy. The antenna is an exact copy of the well known ER 291 antenna, while the set itself is thought to be modified. It is designated Bird, and is actually a combined warning set and, as such, can also give a certain amount of surface warning. It has, however, very poor discrimination qualities. The set is placed atop the mainmast.

Data:

Frequency	:	208-214 megacycles
Frequency of pulse repetition	:	50-150 pulsations per second (unstable)
Polarization	:	Horizontal
Horizontal beam width	:	40-60°

c) Fire Direction Control Radar

There are two different arrangements of fire direction radar on the KOLA-Class destroyers. This is attributable to the fact that the vessels do not all have the same director. The vessels with the newest type of director have, naturally enough, the most modern radar equipment. Of four recently observed vessels, three, [redacted] had an older type of director which was equipped with Fire Iron antenna. [redacted] a more modern type of director with one of the newest of all fire direction antennas, namely the Sun Visor. Both radar types indicate that the emphasis has been placed on making the vessels suitable for antiaircraft purposes. 25X1 25X1

i) Fire Iron

This is a set which is still in widespread use the Soviet Navy, inter alia, as the fire direction set for the secondary guns of the CHAPAYEV and the SKORYY Classes. The antenna consists of four YAGI s. It follows the director laterally and can be elevated 180° through the zenith. It is apparently also stabilized.

Data:

Frequency	:	600 megacycles
Frequency of pulse repetition	:	500-550 pulsations per second
Polarization	:	Horizontal
Range against aircraft	:	About 10 nautical miles

ii) Sun Visor

This is a new fire direction set which operates in the 10 centimeter band. The set has already replaced the Fire Iron on some vessels, including the SVERDLOV Class. It has also been observed on the new RIGA Class.

The antenna follows the director laterally and can be elevated. The director, and thereby the antenna, is thought to be fully stabilized. It is also assumed that the set has "beam switching" in one form or another.

Data:

Frequency	:	2,500-3,500 megacycles
Polarization	:	Horizontal
Horizontal beam width	:	2.4°
Vertical beam width	:	9.5°
Radar horizon	:	About 8.5 nautical miles

d) IFF

The KOLA Class is equipped with IFF exactly like the great majority of other Soviet naval vessels. They have an arrangement of antennas, namely one Yard Rake and one Ski Pole, which functions together with the surface warning set, and a corresponding arrangement for the [air] warning set.

Data:

IFF in connection with surface warning:

Frequency	:	160-170 megacycles
Frequency of pulse repetition	:	370-440 pulsations per second
Polarization	:	Vertical
Antenna rotation	:	Irregular

IFF in connection with air warning:

Frequency	:	160-170 megacycles
Frequency of pulse repetition	:	70-110 pulsations per second
Polarization	:	Vertical

8. Guns and Fire Direction

The KOLA Class has four individual 3.9" dual purpose guns in shielded mounts, which are open to the rear. "A" and "Y" guns are placed on deck and "B" and "X" guns on deckhouses. The guns are apparently power operated for direction control and can be elevated from plus 5° to plus 85°. The speed of fire is thought to be about 15 to 20 rounds per minute. At the back of the shields there are ring shaped deflectors for empty cartridge casings.

In platforms on each side of the after funnel there are two 37 millimeter antiaircraft guns. On the deckhouse abaft the after funnel there is a round platform without any equipment on it but which possibly is intended as a base for other antiaircraft guns. Two different directors have been observed on the KOLA-Class destroyers. Some vessels have a cylinder shaped director for control of the main guns, of the same type as controls the antiaircraft guns on a SKORYY-Class destroyer. Others have a sphere shaped, more modern director which is a modified edition of the secondary director on SVERDLOV-Class cruisers. Both director types are specially suited to antiaircraft purposes and are equipped with radar antennas (see section 7 above).

9. Torpedoes

There is one torpedo battery with 3 - 21" torpedoes placed on the centerline between the funnels, about 160 feet from the bow. The height of the torpedoes above the waterline is 13-14 feet. There is nothing especially noteworthy about the torpedo setup but the relatively small number of them may possibly indicate that they are target seeking torpedoes. At the forward funnel, there are steel flasks which likely contain compressed air.

10. Anti-submarine Weapons

No forward-throwing weapons have been observed on the KOLA-Class destroyers, but the possibility that it would be possible to install a form of anti-submarine weapon of this type abaft the after funnel (see section 8 above) must be taken into consideration.

There are four depth charge guns on the afterdeck, each close by a stand containing 8 depth charges. The charges from the stand can easily and rapidly be put into place for throwing by the "roll forward - push over" method. On attack, there would be, in all, 36 depth charges on deck. Aside from the hatches mentioned in section 3, there are no devices for dropping charges over the stern.

11. Mines

The KOLA-Class destroyers, like all Soviet destroyers, are equipped for minelaying. There are mine tracks on each side of the ship from the forward funnel and aft with a cross track close under the barrel of the after gun. The mine capacity is calculated to be about 50.

12. Radio Equipment

In this field it is not possible to give any description of the materiel on the basis of study of the antennas, such as is possible in connection with radar equipment. It is possible, however, to form a certain impression of the quantity of the materiel and to suggest the frequency ranges. A study of the antennas and their placement gives the following results:

The KOLA-Class destroyers have two radio sets - one forward of the bridge, which is the main set, and one in the after portion of the ship. Between the masts, there are two sets of main antennas. These are for the MF/LF range and are thought to be combined transmitting and receiving antennas. There is an antenna lead-in to each radio set. There are, in all, four "Whip" antennas. These are for the HF range - by way of estimation, 1.5 to 20 megacycles - and are combined transmitting and receiving antennas. Two of these serve the equipment in the main radio set and are installed in the forward edge of the bridge; the other two are installed on the superstructure abaft the after funnel and serve the after radio set.

On the foremast there is also a medium frequency radio direction finder antenna. In addition to this there is, on the port yard, a transmitting-receiving antenna for VHF range, the characteristic frequency of which is a good 60 megacycles. This is possibly a type of transmitter-receiver of fairly recent origin which is designated "Reyd" and which operates in the 62.5 to 66.7 megacycle range.

13. Various Heights over the Waterline and Horizontal Distances

Bow: 19.0 feet

Top of A gun shield: 24 feet

Top of B gun shield: 29 feet

Top of X gun shield: 23 feet

Top of Y gun shield: 18 feet

Top of bridge: 34 feet

Top of director, SKORYY type: 44 feet

Foremast, surface radar: 72 feet

Top of mainmast: 53 feet

Top of forward funnel: 34 feet

Top of after funnel: 30 feet

Afterdeck: 7 feet

Bow to foremast: 131 feet

Foremast to mainmast: 55 feet

Mainmast to stern: 132 feet

Funnel to funnel: 57 feet

14. Rescue Equipment and Boats

The KOLA-Class vessels are equipped with life rafts and life rings, a 24 foot lifeboat on the port side of the bridge and a 24 foot "skimmer" type motorboat (three feet shorter than a SKORYY skimmer) on the starboard side of the bridge. The davits are of a different type than, for example, on the SKORYY Class. They do not slew in a horizontal plane but are cranked right out on an axis parallel to the length of the ship.

15. Minesweeping

Inboard (starboard and port sides) at the after funnel there is a powerful slewing davit for launching of a paravane which is stowed near the deckhouse. There are wire drums on the starboard and port sides near the deckhouse below "X" gun and there is a capstan type winch on the afterdeck.

16. Damage Control

At several places on deck there are rolls of reserve electric power cables and fire hoses. The number of air ports (see section 3) in the side of the ship has been reduced in comparison to the SKORYY Class. This indicates that greater consideration has been given to damage control.

17. Smoke Apparatus

Inboard on the afterdeck there are, in all, four drums (about four feet long) for laying a smoke screen, two on each side. It is thought that they can be used both as smoke buoys and for controlled smoke screen laying aboard.

18. Ventilation Openings

The air intakes for the deckhouses seem to have bowl-shaped covers which can be closed for protection against gas or radioactive substances.

Conclusion

The KOLA-Class destroyers have a smaller displacement and a relatively limited range, and likely also less speed as compared to the SKORYY and TALLINN-Class destroyers. In comparison to the SKORYY-Class destroyers, the KOLA-Class destroyers are better equipped with depth charges. The KOLA Class is thought to have good seagoing qualities. The artillery is well adapted to both surface and air targets but both the caliber and fire direction radar indicate that emphasis has been placed on defense against air attack. The KOLA-Class destroyers can perform minesweeping operations and, like all Soviet destroyer classes, can also lay mines. Provided that the torpedoes are not target-seeking, the torpedo armament indicates that attack against surface forces is of secondary importance.

For the above given reasons it is thought that the KOLA-Class destroyers will be used primarily as escort vessels.

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